What We Claim Is:

1. A hand-held unit for facilitating the imaging of an area of a patient's skin comprising a hand-held case, a source of light inside the case for directing light toward the front of the case, an imaging device in the case for generating imaging signals from light derived from said area of skin, and at least two cones attachable to the front of said case each having a transparent window for bearing against an area of skin, each of said cones serving a different function and having properties different from the other cones, but all cones positioning their respective windows at the same distance from said imaging device.

2. A hand-held unit in accordance with claim 1 wherein at least one cone has multiple colours around its transparent window permanently in the field of view of said imaging device to aid in the calibration of said imaging device.

3. A hand-held unit in accordance with claim 2 wherein said colours are on the outside of said window so that the colours are imaged in the same plane and under the same optical conditions as the patient's skin when the window bears against the patient's skin.

4. A hand-held unit in accordance with claim 1 further including a cone attachable to the front of said case and having a non-transparent planar section at the front thereof whose colour is a known reproducible reference colour.

5. A hand-held unit in accordance with claim 1 wherein at least one cone is adapted to have a removable layer of a known reproducible colour attached thereto.

6. A hand-held unit in accordance with claim 5 wherein said removable layer is on said window such that upon removal it cannot be re-used.

7. A hand-held unit in accordance with claim 1 wherein at least one of said cones is adapted to permit the imaging of a lesion, and another of said cones is adapted to permit the imaging of a relatively substantial portion of the patient.

8. A hand-held unit in accordance with claim 1 wherein said source of light includes a plurality of individual light sources facing the front of the case with a diffuser in front of each of said sources.

9. A hand-held unit in accordance with claim 8 wherein said plurality of individual light sources are arranged in a plane, with each of said light sources being slightly inclined to a central axis of the hand-held unit.

10. A hand-held unit in accordance with claim 1 wherein said source of light includes a plurality of individual light sources facing the front of the case and arranged in a plane, with each of said light sources being slightly inclined to a central axis of the hand-held unit.

11. A hand-held unit in accordance with claim 9 or 10 wherein pairs of intensity distributions from said individual light sources are spatially separated such that they overlap at their half-intensity levels so that the resulting summation of their intensities has a flat central region.

12. A hand-held unit in accordance with claim 9 or 10 wherein pairs of intensity distributions from said individual light sources are spatially separated such that they satisfy the Raleigh criterion for the separation of two Gaussian pulses.

13. A hand-held unit in accordance with claim 1 wherein said source of light includes a plurality of individual light sources facing the front of the case and arranged in a plane, with pairs of intensity distributions from said individual light sources being spatially separated such that they overlap at their half-intensity levels so that the resulting summation of their intensities has a flat central region.

14. A hand-held unit in accordance with claim 13 wherein there are four individual light sources arranged at the corners of a square.

15. A hand-held unit in accordance with claim 1 wherein said source of light includes a plurality of individual light sources facing the front of the case and arranged in a plane, with said individual light sources being spatially separated such that they satisfy the Raleigh criterion for the separation of two Gaussian pulses.

16. A hand-held unit in accordance with claim 15 wherein there are four individual light sources arranged at the corners of a square.

17. A hand-held unit in accordance with claim 16 wherein said individual light sources are sufficiently separated that the reflections of each individual light source from the patient's skin or the surface of said window lie outside the field of view of said imaging device.

18. A hand-held unit in accordance with claim 1 wherein said source of light includes a plurality of individual light sources sufficiently separated that the reflections of each individual light source from the patient's skin or the surface of said window lie outside the field of view of said imaging device.

19. A hand-held unit in accordance with claim 1 wherein at least one of said cones is adapted to permit the imaging of a lesion and another of said cones is adapted to permit the imaging of a reference material, and said cones have windows of the same thickness.

20. A hand-held unit in accordance with claim 19 wherein said same thickness is at least 5 millimetres.

21. A hand-held unit for facilitating the imaging of an area of a patient's skin comprising a hand-held case, a source of light inside the case for directing light toward the front of the case, an imaging device in the case for generating imaging signals from light derived from said area of skin, and at least two different cones having different functions attachable to the front of said case each having a transparent window of the same thickness for bearing against an area of skin, said at least two different cones positioning their respective windows at the same distance from said imaging device.

22. A hand-held unit in accordance with claim 21 wherein said same thickness is at least 5 millimetres.

23. A hand-held unit for illuminating an area of a patient's skin that is to be imaged comprising a hand-held case having a transparent window for bearing against said area of skin, and a source of light inside the case for directing light toward the front of the case, said source of light including a plurality of light output ports facing the front of the case and arranged in a plane, with pairs of intensity distributions from said output ports being spatially separated such that they overlap at their half-intensity levels so that the resulting summation of their intensities has a flat central region.

24. A hand-held unit in accordance with claim 23 wherein said output ports are slightly inclined to a central axis of the hand-held unit.

25. A hand-held unit in accordance with claim 24 wherein there are four output ports arranged at the corners of a square.

26. A hand-held unit in accordance with claim 24 wherein said output ports are sufficiently separated that the reflections of each port from the patient's skin or the surface of said window lie outside the field of view of said imaging device.

27. A hand-held unit in accordance with claim 23 further including an imaging device and wherein said output ports are sufficiently separated that the reflections of each port from the patient's skin or the surface of said window lie outside the field of view of said imaging device.

28. A hand-held unit in accordance with claim 23 wherein there are four output ports arranged at the corners of a square.

29. A hand-held unit in accordance with claim 28 further including an imaging device and wherein said output ports are sufficiently separated that the reflections of each port from the patient's skin lie outside the field of view of said imaging device.

30. A system for storing dermatological images comprising three data stores containing respectively data pertaining to unprocessed lesion-free skin, skin lesion and reference-material images, and a data structure linking them to facilitate the derivation of calibrated lesion-free skin and skin lesion images and skin/lesion boundary identification.

31. A system for storing dermatological images comprising two data stores containing respectively data pertaining to unprocessed skin lesion and reference-material images, and a data structure linking them to facilitate the derivation of calibrated skin lesion images.

32. A system for storing dermatological images in accordance with claim 30 or 31 wherein said images are taken through transparent plates of equal thickness that bear respectively against a patient's skin and a reference material.

33. A system for storing dermatological images in accordance with claim 30 or 31 wherein said images are taken through transparent plates of equal thickness that bear respectively against a patient's skin and a reference material, said transparent plates being at least 5 millimetres thick.

34. A system for storing dermatological images in accordance with claim 30 or 31 wherein said images are taken through transparent plates of equal thickness that bear respectively against a patient's skin and a reference material, said transparent plates having side edges that are absorptive and non-radiating.

35. A system for storing dermatological images in accordance with claim 30 or 31 wherein said images are taken through transparent plates of equal thickness that bear respectively against a patient's skin and a reference material, said transparent plates being at least 5 millimetres thick and having side edges that are absorptive and non-radiating.

36. A system for storing dermatological images comprising two data stores containing respectively data pertaining to unprocessed lesion-free skin and skin lesion images, and a data structure linking them to facilitate the derivation of skin/lesion boundary identification.

37. A system for storing dermatological images comprising two data stores containing respectively data pertaining to lesion-free skin and skin lesion images, and a data structure linking them to facilitate the derivation of skin/lesion boundary identification.

38. A system for storing dermatological images in accordance with claim 36 or 37 wherein said images are taken through transparent plates of equal thickness that bear respectively against a patient's skin and a reference material.

39. A system for storing dermatological images in accordance with claim 36 or 37 wherein said images are taken through transparent plates of equal thickness that bear respectively against a patient's skin and a reference material, said transparent plates being at least 5 millimetres thick.

40. A system for storing dermatological images in accordance with claim 36 or 37 wherein said images are taken through transparent plates of equal thickness that bear respectively against a patient's skin and a reference material, said transparent plates having side edges that are absorptive and non-radiating.

41. A system for storing dermatological images in accordance with claim 36 or 37 wherein said images are taken through transparent plates of equal thickness that bear respectively against a patient's skin and a reference material, said transparent plates being at least 5 millimetres thick and having side edges that are absorptive and non-radiating.

42. A system for displaying dermatological images comprising a hand-held unit for illuminating an area of a patient's skin; an imaging device for generating an imaging signal from light derived from said skin area; and a display for displaying at least one image derived from said imaging signal together with a measurement line drawn between two selected features on said image, and in text form the actual distance between the selected features on the image; and wherein, following display of said distance in text form, the text can be moved to a selected location on the display that does not interfere with a feature of interest.

43. A system for displaying dermatological images in accordance with claim 42 wherein grid lines of known spacing may be overlaid on said at least one image to facilitate geometrical measurements.

44. A system for displaying dermatological images in accordance with claim 43 wherein said grid lines may be rotated and shifted.

45. A system for displaying dermatological images in accordance with claim 42 wherein at least two images of the same lesion taken at different times may be displayed simultaneously so that growth of the lesion may be determined.

46. A system for displaying dermatological images comprising a hand-held unit for illuminating an area of a patient's skin through a transparent window that bears against the skin and including an imaging device for generating an imaging signal from light derived from said skin area, a display for displaying an image derived from said imaging signal, a data storage device for storing data representative of the patient and lesion history, the image and data pertaining to the image including its position on the patient's skin and the status of a lesion that it depicts, and an editing system for entering and changing data pertaining to image position and lesion status, said transparent window including reference targets of known colours on the surface that bears against the skin and permanently in the field of view of said imaging device to facilitate standardization of images.

47. A system for displaying dermatological images in accordance with claim 46 wherein lesion status data includes data pertaining to excision subsequent to the taking of a corresponding stored image.

48. A system for collecting, storing and displaying dermatological images comprising a hand-held unit for illuminating an area of a patient's skin, an imaging device for generating an imaging signal from light derived from said skin area, two image stores containing data pertaining respectively to lesion images and reference-material images generated by said imaging device, a data structure linking said two stores to each other, a display for displaying at least one lesion image, and a processor for normalising a lesion image prior to the display thereof in accordance with the linked reference-material image.

49. A system for collecting, storing and displaying dermatological images in accordance with claim 48 further including at least one cone attachable to the front of said hand-held unit and having a transparent window for bearing against a skin area of a patient, and a plurality of reference targets of known colours on the window surface that bears against the skin and permanently in the field of view of said imaging device to facilitate standardization of images.

50. A system for collecting, storing and displaying dermatological images in accordance with claim 48 further including a plurality of cones attachable to the front of said hand-held unit each having a transparent window for bearing against a skin area of a patient, and a plurality of reference targets of known colours in each cone on the window surface that bears against the skin and permanently in the field of view of said imaging device to facilitate

standardization of images, said targets being different in the different cones so that the processor can automatically determine the cone being used from the targets.

51. A system for collecting, storing and displaying dermatological images in accordance with claim 48 wherein for any pixel at position (x,y) in the reference-material image having intensity W(x,y), the corresponding pixel in a lesion image is normalised by dividing its measured intensity by the factor W(x,y).

52. A system for collecting, storing and displaying dermatological images in accordance with claim 51 wherein said processor normalises the intensity of a pixel in multiple colour planes.

53. A system for collecting, storing and displaying dermatological images in accordance with claim 51 wherein a lesion image is represented by RGB values that are linked to an international standard by a conversion matrix that converts images of uniform coloured materials taken on said imaging device to the colours of the materials as measured on a calibrated colorimeter.

54. A system for collecting, storing and displaying dermatological images in accordance with claim 48 wherein a lesion image is represented by RGB values, and those values are linked to an international standard by a conversion matrix that converts images of uniform coloured materials taken on said imaging device to the colours of the materials as measured on a calibrated colorimeter.

55. A system for storing and displaying dermatological data and images comprising a database containing patient information; a data store containing data pertaining to skin lesion images for patients represented in said database; and a map storage device containing bodymap representations for respective patients represented in said database that indicate the physical locations on said patients of lesions whose skin lesion data are in said data store, and photomap images for respective patients represented in said database whose lesions are sufficiently close to each other so as to require more detailed identification of lesion locations; said patient database including a data structure linking patient information, respective skin lesion data in said data store, and the respective bodymap representations and photomap images in said map storage device; the bodymaps containing marks indicating the availability of photomaps if they exist, the marks being located on the bodymaps at positions corresponding to those of the photomaps; and a display for displaying bodymaps and photomaps; the selection of a bodymap mark on said display automatically causing the corresponding photomap to be displayed.

56. A system for storing and displaying dermatological data and images in accordance with claim 55 wherein said data structure links a bodymap representation for a patient having lesions that are close to each other to one or more photomaps depicting those lesions, with the data structure further linking such photomaps to respective skin lesion data in said data store.

57. A system for storing dermatological images in accordance with claim 55 or 56 wherein lesions represented on a bodymap or photomap are represented by respective marks indicative of the statuses thereof.

58. A system for storing and displaying dermatological data and images comprising a database containing patient information; a data store containing data pertaining to skin lesion images for patients represented in said database; and a map storage device containing bodymap representations for respective patients represented in said database that indicate the physical locations on said patients of lesions whose skin lesion data are in said data store, and photomap images for respective patients represented in said database whose lesions are sufficiently close to each other so as to require more detailed identification of lesion locations; said patient database including a data structure linking patient information, respective skin lesion data in said data store, and the respective bodymap representations and photomap images in said map storage device; the bodymaps and photomaps containing marks that identify the statuses of corresponding lesions; and a display for displaying bodymaps and photomaps; the selection of a bodymap or photomap status mark on said display automatically causing an image of the corresponding lesion to be displayed.

59. A system for storing and displaying dermatological data and images in accordance with claim 58 wherein said data structure links a bodymap representation for a patient having lesions that are close to each other to one or more photomaps depicting those lesions, with the data structure further linking such photomaps to respective skin lesion data in said data store.

60. A system for storing and displaying dermatological data and images in accordance with claim 58 or 59 wherein the bodymaps contain marks indicating the availability of photomaps if they exist, the marks being located on the bodymaps at positions corresponding to those of the photomaps

61. A cone for a hand-held unit that facilitates the imaging of an area of a patient's skin, said hand-held unit having a case, a source of light inside the case for directing light toward the front of the case, and an imaging device for generating an imaging

signal from light derived from said area of skin, said cone having a transparent window at the front thereof with a plurality of reference targets of known colours on an outer surface that bears against the skin of a patient, said cone being attachable to the front of said case and having a removable reference material thereon.

62. A cone in accordance with claim 61 wherein said reference material is on said window such that upon removal it cannot be re-used.

63. A cone for a hand-held unit that facilitates the imaging of an area of a patient's skin, said hand-held unit having a case, a source of light inside the case for directing light toward the front of the case, and an imaging device for generating an imaging signal from light derived from said area of skin, said cone being attachable to the front of said case and having a transparent window at the front thereof with a plurality of reference targets of known colours on an outer surface that bears against the skin of a patient.

64. A cone for a hand-held unit that facilitates the imaging of an area of a patient's skin, said hand-held unit having a case, a source of light inside the case for directing light toward the front of the case, and an imaging device for generating imaging signals from light derived from said area of skin, said cone being attachable to the front of said case and having a transparent window at the front thereof whose thickness is at least 5 millimetres for bearing against the skin of a patient.

65. A cone in accordance with claim 64 wherein said transparent window has side edges that are absorptive and non-radiating.

66. A system for storing first data pertaining to lesion images and second data pertaining to reference-material images, the data pertaining to both said lesion images and said reference-material images having been generated by the same imaging device, said first data and said second data having data structures linking each of them to the other, and wherein both said first data and said second data represent RGB values that are linked to an international standard by a conversion matrix that converts images of uniform coloured materials taken on said imaging device to the colours of reference materials as measured on a calibrated colorimeter.

67. A data structure comprising first data pertaining to lesion images and second data pertaining to reference-material images, the data pertaining to both said lesion images and said reference-material images having been generated by the same imaging device and being linked to each other, and wherein both said first data and said second data represent RGB values that are linked to an international standard by a conversion matrix that

converts images of uniform coloured materials taken on said imaging device to the colours of reference materials as measured on a calibrated colorimeter.